Globelics

Prime

Panel discussion

The challenges of the STI policy mix: how to solve the trade-off between different goals-catching up international practices and attend social needs

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Issues for the debate

Increased emphasis on Policy mix in policy design and implementation

Whereas much emphasis has heretofore been placed on the design and evaluation of individual instruments of innovation policy – new funding models for public research, tax incentives for business R&D, public/private partnerships programmes and human resource development programmes – interest is now growing in understanding the effectiveness of the larger portfolio of policies used to improve a country's innovative capabilities. What is the appropriate balance between policies to strengthen the science system and those to support business R&D? How can efforts to develop human resources for science and technology complement programmes to boost scientific capacity? How can governments design individual instruments (*e.g.*, tax incentives, direct financing of business R&D) so that they reinforce rather than interfere with each other? Is a reduce set of policy instruments more effective than a larger one, and what are the limits on streamlining?

In recent years, growing attention has been devoted to the issue of ***policy mixes*** for innovation. More than just the set of policies, the term ***policy mix*** refers to the combination and balance of policy instruments that are used in complementary and mutually reinforcing ways to achieve desired objectives in terms of social and economic outcomes of investment in knowledge-related resources and activities.

Ideally, a ***policy mix*** takes into account possible interactions among instruments (positive and negative) and ensures balanced support for the range of challenges faced by a nation's innovation system. As such, policy mixes should be adapted to national circumstances (e.g., industry structure, balance of large and small firms, role of universities and government research laboratories). It should be highlighted that in practice, policy mixes often reflect: (1) the specificities of countries' governance structure of STI policy and interministerial coordination issues related to policy implementation by different ministries; and (2) the balance of power among different vested interests of actors of national systems of innovations.

Policy mixes should be far from static and evolve over time as national objectives and capabilities change and new policy instruments are deployed in response to *inter alia* changing balances between private and public investment in knowledge and innovation and evolving patterns of relationships between these two sectors, new patterns of transactions in knowledge markets, consolidation of framework conditions (e.g. competition, financial markets, IPRs) the growing

importance of S&T contribution to address social needs, the increasing externalisation and globalisation of STI activities.

Scope and issues

The concept of a policy mix for innovation can be applied at several of different levels of analysis, each of which raises relevant sets of issues both from an analytical and a policy design viewpoint.

- At a *high* level, a policy mix review can examine the overall *balance* of objectives for innovation policy, such as strengthening the science system, supporting business innovation, linking science to innovation, developing human resources or establishing framework conditions that are conducive to innovation. It might also include policies to foster the adoption of technology from abroad and/or the diffusion of innovation. It can examine whether the balance among policy objectives is well-suited to the needs of the innovation system based on its structure and perceived level of performance.

- At an *intermediate* level, policy mixes can refer to the different routes by which the higher-level objectives are achieved. For example, it can examine the range of approaches used to support business innovation, such as increasing business R&D expenditure in existing firms, attracting foreign R&D investment, encouraging innovation in SMEs or stimulating new R&D performers via entrepreneurship. In the area of human resources, it could consider opportunities for expanding domestic supplies, as well as for international recruitment. As such, the review can examine whether policies are well-matched to objectives and cover the range of needs.

- At a more *detailed* level, it may refer to the combination of individual policies, programmes and instruments used to achieve these objectives; for example, the combination direct funding mechanisms, fiscal incentives and grants & loans used to finance business R&D or the combination of competitively awarded project funding versus institutional funding for financing public research organisations.

In examining policy mixes, key issues are whether the policy mix is appropriate, efficient and effective.

- Does the mix address the main innovation challenges facing the country or are there obvious gaps?
- What are the constraints imposed by governance systems on the policy mix? What governance changes would facilitate better policy mix practices and and consensus building amiong stakeholders?
- Is the balance across main policy domains consistent with the relative magnitude of the innovation challenges? Are there too many or too few instruments, and are they of an appropriate scale?
- Are the individual instruments well-designed and effective (i.e., is the right type of instrument used to address the particular problem to be solved and to the instruments build on good practice)?
- Are there synergies between and among individual instruments?
- What are the available statistics and indicators necessary to monitor the impact and efficiency of actual and alternative policy mixes (positive and negative synergies among policy instruments).